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EXAMINER	
FIGUEROA, MARISOL	
ART UNIT	PAPER NUMBER
2681	

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/733,126	PARK ET AL.	
	Examiner	Art Unit	
	Marisol Figueroa	2681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28 and 31-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28 and 31-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Elections/Restrictions

1. In response to the election/restriction requirement filed on October 24, 2005, Applicants elected, without traverse, Group I containing claims 1-28, and submitted new claims 31-34. Claims 1-28, and 31-34 are now pending in the present application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. **Claims 1, 6, and 32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Almassy (EP1243941 A1) in view of Nuutinen et al. (US 2004/0072576 A1).

Regarding claim 1, Almassy discloses a system and method for providing position information of a target mobile communication terminal whose position is to be found out, comprising:

a first mobile communication terminal for transmitting a position tracking signal for determining the position of said target mobile communication terminal (p.0012, lines 3-6; p.0014, lines 6-8; a first mobile station 12 uses port to request the position of a telephone, e.g. second mobile station) and calculating and transmitting first individual position information (p.0008, lines 1-3; p.0014, lines 4-6, 9-11; the first mobile station receives GPS data to determine its own position);

a second mobile communication terminal being said target mobile communication terminal, said second mobile communication terminal calculating and transmitting second individual position information (p.0008, lines 1-8; p.0012, lines 3-8; p.0015, lines 5-13; p.0033; the second mobile station determines its own position from received GPS data and transmit it in response to the request); and

a mobile communication server for transferring said second individual position information transmitted from said second mobile communication terminal to said first mobile communication terminal (p.0020, lines 1-7; location control module sends the position of the second mobile station to the first mobile station in response to the request from the first mobile station);

wherein said first mobile communication terminal is adapted to calculate correlative position information between it and said second mobile communication terminal on the basis of said first individual position information and second individual position information at intervals of a predetermined time and output the calculated correlative position information to a screen (p.0012, lines 1-10; p.0017; p.0018, lines 1-6; the first mobile station calculates the distance to the second mobile station with its own location and the received location from the second mobile station, furthermore the direction to the telephone can be computed and displayed as well).

However, Almassy fails to disclose wherein the mobile communication server generates AASA information using radio waves, transmits the generated AASA information to said first mobile communication terminal and second communication terminal upon receiving said position tracking signal transmitted from said first mobile communication terminal, and further that the first and second communication terminals calculates its individual position on the basis of AASA information at intervals of a predetermined time, said AASA information including a received signal strength indicator of radio waves transmitted from a GPS (Global Positioning System) satellite.

Nuutinen discloses a system for transferring location data for assisting in locating one or more mobile stations in the network, in where a location entity is adapted to receive raw location data and generate assistance data, which is transferred to a mobile station to determine its location (abstract; p.0021; p.0026). Therefore, it would have been obvious to one having ordinary skill in the art for a mobile communication server to generate AASA information, i.e. GPS assistance data, and send it to mobile communication terminals to calculate their position as suggested by Nuutinen, because the use of AASA information, i.e. GPS assistance data, address the need for faster location determination by GPS-equipped units.

Regarding claim 6, Almassy discloses a method for providing position information of a target mobile communication terminal whose position is to be determined, using a communication system, said communication system including a mobile communication server, a mobile communication network and first and second mobile communication terminals connected to said mobile communication server over said mobile communication network, said second mobile communication terminal being said target mobile communication terminal, said method comprising the steps of: a) transmitting a position tracking signal for determining the position of said second mobile communication terminal (p.0012, lines 3-6; p.0014, lines 6-8; a first mobile station 12 uses port to request the position of a telephone, e.g. second mobile station) to said mobile communication server (p.0020; position control module sends the position of the second mobile terminal in response to requests from the first mobile station); b) calculating first individual position information of said first mobile communication (p.0008, lines 1-3; p.0014, lines 4-6, 9-11; the first mobile station receives GPS data to determine its own position); c) calculating second individual position information of said second mobile communication terminal (p.0008, lines 1-8; p.0012, lines 3-8; p.0015, lines 5-13; p.0033; the second mobile station determines its own position from received

GPS data and transmits it in response to the request), transferring the calculated second individual position information to said first mobile communication terminal through said mobile communication server (p.0020, lines 1-7; location control module sends the position of the second mobile station to the first mobile station in response to the request from the first mobile station); d) calculating correlative position information between said first mobile communication terminal and said second mobile communication terminal on the basis of said first individual position information and second individual position information if said second individual position information is determined to have been received (p.0012, lines 1-10; p.0017; p.0018, lines 1-6; the first mobile station calculates the distance to the second mobile station with its own location and the received location from the second mobile station, furthermore the direction to the telephone can be computed and displayed as well); and e) outputting the calculated correlative position information to a screen (p.0017; p.0018, lines 1-6).

However Almassy fails to disclose a server generating AASA information for position determination calculation on the basis of radio waves transmitted from GPS satellites, and wherein the first and second communication terminals calculate their individual position on the basis of said AASA information transmitted from said mobile communication server in response to said position tracking signal.

Nuutinen discloses a system for transferring location data for assisting in locating one or more mobile stations in the network, in where a location entity is adapted to receive raw location data and generate assistance data, which is transferred to a mobile station to determine it location (abstract; p.0021; p.0026). Therefore, it would have been obvious to one having ordinary skill in the art for a mobile communication server to generate AASA information, i.e. GPS assistance data, and sends it to mobile communication terminals to calculate their position as suggested by Nuutinen,

because the use of AASA information, i.e. GPS assistance data, address the need for faster location determination by GPS-equipped units.

Regarding claim 32, the combination of Almassy and Nuutinen disclose the system as set forth in claim 1, Almassy further disclose wherein after calculating said second individual position information, said second mobile communication terminal generates a short message service (SMS) message including said second individual position information and transmits said SMS message to said mobile communication server (p.0010; p.0040, lines 1-7).

4. **Claims 2, and 7-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Almassy in view of Nuutinen et al., and further in view of Norris (US 5,781,150).

Regarding claim 2, the combination of Almassy and Nuutinen disclose the system as set forth in claim 1, however fails to disclose wherein said first mobile communication terminal is adapted to mark said first individual position information, second individual position information and correlative position information on a map, output the resulting map to said screen and, whenever any of said first individual position information, second individual position information and correlative position information are changed, update the existing information marked on said map with the changed information and mark the updated information on said map. Norris discloses a system of GPS devices, which receive GPS signals and provide an intuitive graphical interface for displaying the relative position of GPS devices in relation to each other (abstract, lines 1-17). A second GPS device, i.e. first mobile terminal, after receiving location information from a first GPS device, i.e. second mobile terminal, calculates a relative distance between GPS receivers and the interface of the second GPS device graphically displays the position of the first GPS device relative to the second GPS device (col.6, lines 16-20, 38-48, 58-65; col.7, lines 47-50; col.8, lines 7-22), also the direction to the first GPS device is always displayed in the interface of the second GPS device

which is constantly updated as the second GPS device receives updated telemetry data, i.e. location information, from the first GPS device (col.6, lines 66 – col.7, lines 1-20). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention for the first terminal to mark said first individual position information, second individual position information, and correlation information on a screen, and update the existing information marked on said map with changed information as suggested by Norris, in order to facilitate the immediate travel to the tracked device, i.e. second mobile communication terminal.

Regarding claim 7, the combination of Almassy and Nuutinen discloses the method as set forth in claim 6, however fails to disclose wherein said correlative position information includes said first individual position information and said second individual position information; and wherein said step e) includes the step e-1) of outputting said correlative position information including said first individual position information and said second individual position information to said screen. Norris discloses a system of GPS devices, which receive GPS signals and provide an intuitive graphical interface for displaying the relative position of GPS devices in relation to each other (abstract, lines 1-17). A second GPS device, i.e. first mobile terminal, after receiving location information from a first GPS device, i.e. second mobile terminal, calculates a relative distance between GPS receivers and the interface of the second GPS device graphically displays the position of the first GPS device relative to the second GPS device (col.6, lines 16-20, 38-48, 58-65; col.7, lines 47-50; col.8, lines 7-22). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to comprise the step of outputting said correlative information including the individual positions of both terminals to a screen as suggested by Norris, in order to facilitate the immediate travel to the tracked device, i.e. second mobile communication terminal.

Regarding claim 8, the combination of Almassy, Nuutinen and Norris discloses the method as set forth in claim 7, Norris further disclose wherein said step e) further includes the step e-2) of marking said correlative position information on a map and outputting said map marked with said correlative position information to said screen (col.6, lines 38-48, 58-65; col.8, lines 7-21). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to comprise the step of marking said correlative position information on an map and outputting said correlative information on a map as taught by Norris, because displaying this information gives the user an easily discernible and graphical representation of the distance to the device being tracked (col.8, lines 22-25).

Regarding claim 9, the combination of Almassy, Nuutinen, and Norris disclose the method as set forth in claim 8, Norris further disclose wherein each of said first and second individual position information includes at least one of latitude information, longitude information and altitude information of a corresponding one of said first and second mobile communication terminals (col.6, lines 38-42). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention, for each terminal to calculate its individual location in terms of latitude, longitude or altitude information as suggested by Norris, since there are very well known methods for GPS devices to determine their location in terms of latitude and longitude such as triangulation and quadrangulation.

Regarding claim 10, the combination of Almassy, Nuutinen, and Norris disclose the method as set forth in claim 9, Almassy further discloses wherein said correlative position information includes at least one of information regarding a direction and distance from said first mobile communication terminal to said second mobile communication terminal (p.0012, lines 1-10; p.0017; p.0018, lines 1-6).

5. **Claims 3-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Almassy in views of Nuutinen et al., Norris, and further in view of Lee et al. (US 6,850,188 B1).

Regarding claim 3, the combination of Almassy, Nuutinen and Norris disclose the system as set forth in claim 2, wherein said first mobile communication terminal is adapted to, whenever said first individual position information and second individual information are calculated, update moving paths of said first mobile communication terminal and second mobile communication terminal on the basis of the calculated first individual position information and second individual information and mark the updated moving paths on said map. Lee discloses a portable GPS unit that determines its location and transmits and receive location data to/from other GPS units (abstract, lines 1-7). The communication units are able to calculate their location and communicate that location data to other equipped GPS receivers and operable to display the distance between the units, also is operable to display a track log, i.e. moving path, of other units (col.4, lines 29-33, 64-67; col.5, lines 43-49; col.6, lines 19-23, 39-42; col.7, lines 7-14, 60-67; col.8, lines 1-9). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to update the moving paths of the terminals as suggested by Lee, in order to determine exactly where the other units have traveled over a pre-determined time interval because this information may be useful during search and rescue missions.

Regarding claim 4, the combination of Almassy, Nuutinen, Norris, and Lee disclose the system as set forth in claim 3, Norris further disclose wherein each of said first and second individual position information includes at least one of latitude information, longitude information and altitude information of a corresponding one of said first and second mobile communication terminals (col.6, lines 38-42). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention, for each terminal to calculate its individual location in terms of

latitude, longitude or altitude information as suggested by Norris, since there are very well known methods for GPS devices to determine their location in terms of latitude and longitude such as triangulation and quadrangulation.

Regarding claim 5, the combination of Almassy, Nuutinen, and Lee disclose the system as set forth in claim 4, Almassy further disclose wherein said correlative position information includes at least one of information regarding a direction and distance from said first mobile communication terminal to said second mobile communication terminal (p.0012, lines 1-10; p.0017; p.0018, lines 1-6).

6. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Almassy in views of Nuutinen et al., Lundgren et al. (US 2003/0008671 A1), and Hirokawa (US 2003/0119529 A1).

Regarding claim 11, Almassy disclose a system for providing position information of a target mobile communication terminal whose position is to be found out, comprising:

a first mobile communication terminal for transmitting a position tracking signal for determining the position of said target mobile communication terminal (p.0012, lines 3-6; p.0014, lines 6-8; a first mobile station 12 uses port to request the position of a telephone, e.g. second mobile station) and calculating and transmitting first individual position information (p.0008, lines 1-3; p.0014, lines 4-6, 9-11; the first mobile station receives GPS data to determine its own position);

a second mobile communication terminal being said target mobile communication terminal, said second mobile communication terminal calculating and transmitting second individual position information (p.0008, lines 1-8; p.0012, lines 3-8; p.0015, lines 5-13; p.0033; the second mobile station determines its own position from received GPS data and transmits it in response to the request); and

a mobile communication server (p.0014, lines 54-56; p.0020, lines 1-7; a position determination entity or location control module can be used to assist in the calculation of position information).

Almassy fails to disclose wherein the mobile communication server generates AASA information for position information calculation using radio waves transmitted from GPS satellites, transmits the generated AASA information to said first mobile communication terminal and second communication terminal upon receiving said position tracking signal transmitted from said first mobile communication terminal, and further that the first and second communication terminals calculates its individual position on the basis of AASA information. Nuutinen disclose a system for transferring location data for assisting in locating one or more mobile stations in the network, in where a location entity is adapted to receive raw location data and generate assistance data, which is transferred to a mobile station to determine its current location (abstract; p.0021; p.0026). Therefore, it would have been obvious to one having ordinary skill in the art for a mobile communication server to generate AASA, i.e. GPS assistance data, information and send it to mobile communication terminals to calculate their position as suggested by Nuutinen, because the use of AASA information, i.e. GPS assistance data, address the need for faster location determination by GPS-equipped units.

Furthermore, the combination of Almassy and Nuutinen fails to teach wherein the mobile communication server calculates correlative position information between said first communication terminal and said second communication terminal on the basis of said first individual position information and said second individual position information whenever said first and second individual position information are received and transmitting the calculated correlative information to said first communication terminal.

Lundgren teaches a wireless device having location capabilities that are further enhanced with circuitry that enables the wireless device to compute its local orientation (abstract, lines 1-3), which has application in a system using more than one wireless GPS enabled device. For example if a parent had a GPS enabled wireless device to know the whereabouts of a child that is carrying a smaller, simpler tracking device; that in order to determine the distance and direction to the tracking device, location information from the tracking device could be sent to either the location server or the cell phone, e.g. parent device, which computes the position and orientation to the remote device, e.g. child device, and which is displayed in the parent device (p.0024). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to, for the mobile station to calculate the correlative information as suggested by Lundgren, since it is well known that specifically location servers assist mobile devices with the determination of its current location.

And last, the combination of Almassy, Nuutinen, and Lundgren fails to disclose wherein said first mobile communication terminal is adapted to update said correlative information whenever said correlative information is received and output the updated correlative information to a screen.

Hirokawa discloses a portable terminal with built-in GPS for wirelessly transmitting a receiving latitude and longitude information, with a control unit for setting the designated movement of another terminal device with built-in GPS (abstract), and teaches that the current position and the current position of the searcher are updated at given time intervals to have knowledge of the movement of the person to be located (p.0044, lines 1-3, 17-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to update said correlative information and output the updated correlative information to a screen as suggested by Hirokawa, in order to permit the searcher to properly grasp the movement of the person to be located.

7. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over Almassy in views of Nuutinen et al., Lundgren et al., and Hirokawa, and further in view of Norris.

Regarding claim 12, the combination of Almassy, Nuutinen, Lundgren, and Hirokawa disclose the system as set forth in claim 11, but fails to disclose wherein said mobile communication server is adapted to mark said first individual position information, second individual position information and correlative position information on a map, transmit the resulting map to said first mobile communication terminal and, whenever any of said first individual position information, second individual position information and correlative position information are changed, update the existing information marked on said map with the changed information, mark the updated information on said map and transmit the resulting map to said first mobile communication terminal. Norris discloses a system of GPS devices, which receive GPS signals and provide an intuitive graphical interface for displaying the relative position of GPS devices in relation to each other (abstract, lines 1-17). A second GPS device, i.e. first mobile terminal, after receiving location information from a first GPS device, i.e. second mobile terminal, calculates a relative distance between GPS receivers and the interface of the second GPS device graphically displays the position of the first GPS device relative to the second GPS device (col.6, lines 16-20, 38-48, 58-65; col.7, lines 47-50; col.8, lines 7-22), also the direction to the first GPS device is always displayed in the interface of the second GPS device which is constantly updated as the second GPS device receives updated telemetry data, i.e. location information, from the first GPS device (col.6, lines 66 – col.7, lines 1-20). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention for the server to perform the functions of the GPS devices and mark the individual positions of the mobile terminal and update the information on the map as it changes as suggested by Norris, in order to facilitate the updating of location and direction information.

8. **Claims 13-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Almassy in views of Nuutinen et al., Lundgren et al., Hirokawa, and Norris, and further in view of Lee et al. (US 6,850,188 B1).

Regarding claim 13, the combination of the combination of Almassy, Nuutinen, Lundgren, Hirokawa, and Norris discloses the system as set forth in claim 12, but fails to disclose wherein said mobile communication server is adapted to, whenever said first individual position information and second individual information are received, update moving paths of said first mobile communication terminal and second mobile communication terminal on the basis of the received first individual position information and second individual information, mark the updated moving paths on said map and transmit said map marked with the updated moving paths to said first mobile communication terminal. Lee discloses a portable GPS unit that determines its location and transmits and receive location data to/from other GPS units (abstract, lines 1-7). The communication units are able to calculate their location and communicate that location data to other equipped GPS receivers and operable to display the distance between the units, also is operable to display a track log, i.e. moving path, of other units (col.4, lines 29-33, 64-67; col.5, lines 43-49; col.6, lines 19-23, 39-42; col.7, lines 7-14, 60-67; col.8, lines 1-9). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention for the server to perform the functions of the communication devices and update and mark the moving paths of the terminals as suggested by Lee, in order to determine exactly where the other units have traveled over a pre-determined time interval because this information may be useful during search and rescue missions.

Regarding claim 14, the combination of Almassy, Nuutinen, Lundgren, Hirokawa, Norris, and Lee disclose the system as set forth in claim 13, but fails to disclose wherein each of said first and second individual position information includes at least one of latitude information, longitude

information and altitude information of a corresponding one of said first and second mobile communication terminals. However it would have been obvious to one having ordinary skill in the art at the time of the invention to recognize that each said first and second individual position information includes at least one of latitude, longitude and latitude information since the terminals determines its own location thorough reception of GPS signals (Almassy: p.0008, lines 1-8) and is conventionally known that terminals provided with GPS capability compute its location in terms of latitude and longitude.

Regarding claim 15, the combination of Almassy, Nuutinen, Lundgren, Hirokawa, Norris, and Lee disclose the system as set forth in claim 14, Lundgren further teaches wherein said correlative position information includes at least one of information regarding a direction and distance from said first mobile communication terminal to said second mobile communication terminal (p.0024; the location server can compute the orientation of the cell phone, e.g. parent device, in respect to the tracking device, e.g. child device). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention for the correlative position information to include at least information regarding a direction and distance from said mobile communication terminal as suggested by Lundgren, in order to know how far is the parent terminal from the child terminal and orient the parent terminal to the location of the child terminal.

9. **Claims 16 and 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Almassy in views of Nuutinen et al., and Lundgren et al.

Regarding claim 16, Almassy discloses a method for providing position information of a target mobile communication terminal whose position is to be determined, using a communication system, said communication system including a mobile communication server, a mobile communication network and first and second mobile communication terminals connected to said

mobile communication server over said mobile communication network, said second mobile communication terminal being said target mobile communication terminal, said method comprising the steps of: a) transmitting a position tracking signal for determining the position of said second mobile communication terminal to said mobile communication server (p.0012, lines 3-6; p.0014, lines 6-8, p.0020; a first mobile station 12 uses port to request the position of a telephone, e.g. second mobile station, and alternatively the first communication terminal can send a request to a position control module, i.e. mobile communication server, for the position of the second terminal); b) calculating first individual position information of said first mobile communication terminal by said first mobile communication terminal (p.0008, lines 1-3; p.0014, lines 4-6, 9-11; the first mobile station receives GPS data to determine its own position) and second individual position information of said second mobile communication terminal by said second mobile communication terminal (p.0008, lines 1-8; p.0012, lines 3-8; p.0015, lines 5-13; p.0033; the second mobile station determines its own position from received GPS data).

Almassy fails to disclose wherein the mobile communication server generates AASA information for position information calculation using radio wave transmitted from GPS satellite, transmits the generated AASA information to said first mobile communication terminal and second communication terminal upon receiving said position tracking signal transmitted from said first mobile communication terminal, and further that the first and second communication terminals calculates its individual position on the basis of AASA information. Nuutinen discloses a system for transferring location data for assisting in locating one or more mobile stations in the network, in where a location entity is adapted to receive raw location data and generate assistance data, which is transferred to a mobile station to determine its current location (abstract; p.0021; p.0026). Therefore, it would have been obvious to one having ordinary skill in the art for a mobile communication

server to generate AASA information, i.e. GPS assistance data, and send it to mobile communication terminals to calculate their position as suggested by Nuutinen, because the use of AASA information, i.e. GPS assistance data, address the need for faster location determination by GPS-equipped units.

Furthermore, the combination of Almassy and Nuutinen fails to teach wherein the mobile communication server calculates correlative position information between said first communication terminal and said second communication terminal on the basis of said first individual position information and said second individual position information whenever said first and second individual position information are received and transmitting the calculated correlative information to said first communication terminal and outputting the received correlative position information to a screen. Lundgren teaches a wireless device having location capabilities that are further enhanced with circuitry that enables the wireless device to compute its local orientation (abstract, lines 1-3), which has application in a system using more than one wireless GPS enabled device. For example if a parent had a GPS enabled wireless device to know the whereabouts of a child that is carrying a smaller, simpler tracking device; that in order to determine the distance and direction to the tracking, device location information from the tracking device could be sent to either the location server or the cell phone, e.g. parent device, which computes the position and orientation to the remote device, e.g. child device, and which is displayed in the parent device (p.0024). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to, for the mobile station to calculate the correlative information as suggested by Lundgren, since it is well known that location servers assist mobile devices with the determination of its current location.

Regarding claim 34, the combination of Almassy, Nuutinen, and Lundgren disclose the method as set forth in claim 16, Almassy further discloses wherein the transmitting said calculated

individual location information to said mobile communication server further includes the steps of generating a short message service (SMS) message including said individual position information; and transmitting said SMS message to said mobile communication server (p.0010; p.0040, lines 1-7).

10. **Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over Almassy in views of Nuutinen et al., and Lundgren et al., and further in view of Norris.

Regarding claim 17, the combination of Almassy, Nuutinen and Lundgren disclose the method as set forth in claim 16, but fails to disclose wherein said step d) includes the step d-1) of marking said correlative position information on a map along with said first individual position information and second individual position information and outputting the resulting map to said screen. Norris discloses a system of GPS devices, which receive GPS signals and provide an intuitive graphical interface for displaying the relative position of GPS devices in relation to each other (abstract, lines 1-17). A second GPS device, i.e. first mobile terminal, after receiving location information from a first GPS device, i.e. second mobile terminal, calculates a relative distance between GPS receivers and the interface of the second GPS device graphically displays the position of the first GPS device relative to the second GPS device (col.6, lines 16-20, 38-48, 58-65; col.7, lines 47-50; col.8, lines 7-22), also the direction to the first GPS device is always displayed in the interface of the second GPS device which is constantly updated as the second GPS device receives updated telemetry data, i.e. location information, from the first GPS device (col.6, lines 66 – col.7, lines 1-20). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention for the server to perform the functions of the GPS devices and mark the individual positions of the mobile terminal as suggested by Norris, in order to provide a visualization of the distance and orientation from one terminal to another.

11. **Claims 18-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Almassy in views of Nuutinen et al., Lundgren et al., and Norris, and further in view of Lee et al.

Regarding claim 18, the combination of Almassy, Nuutinen, Lundgren, and Norris disclose the method as set forth in claim 17, wherein said step d) further includes the step d-2) of updating said correlative position information outputted to said screen whenever it is received, outputting the updated correlative position information to said screen, marking moving paths of said first mobile communication terminal and second mobile communication terminal on said map on the basis of said first individual position information and second individual position information and outputting the resulting map to said screen. Lee discloses a portable GPS unit that determines its location and transmits and receive location data to/from other GPS units (abstract, lines 1-7). The communication units are able to calculate their location and communicate that location data to other equipped GPS receivers and operable to display the distance between the units, also is operable to display a track log, i.e. moving path, of other units (col.4, lines 29-33, 64-67; col.5, lines 43-49; col.6, lines 19-23, 39-42; col.7, lines 7-14, 60-67; col.8, lines 1-9). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention for the server to perform the functions of the communication devices and update and mark the moving paths of the terminals as suggested by Lee, in order to determine exactly where the other units have traveled over a pre-determined time interval because this information may be useful during search and rescue missions.

Regarding claim 19, the combination of Almassy, Nuutinen, Lundgren, Norris, and Lee disclose the method as set forth in claim 18, but fails to disclose wherein each of said first and second individual position information includes at least one of latitude information, longitude information and altitude information of a corresponding one of said first and second mobile communication terminals. However it would have been obvious to one having ordinary skill in the

art at the time of the invention to recognize that each said first and second individual position information includes at least one of latitude, longitude and latitude information since the terminals determines its own location thorough reception of GPS signals (Almassy: p.0008, lines 1-8) and is conventionally known that terminals provided with GPS capability compute its location in terms of latitude and longitude.

Regarding claim 20, the combination of Almassy, Nuutinen, Lundgren, and Lee disclose the method as set forth in claim 19, Lundgren further teaches wherein said correlative position information includes at least one of information regarding a direction and distance from said first mobile communication terminal to said second mobile communication terminal (p.0024; the location server can compute the orientation of the cell phone, e.g. parent device, in respect to the tracking device, e.g. child device). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention for the correlative position information to include at least information regarding a direction and distance from said mobile communication terminal as suggested by Lundgren, in order to know how far is the parent terminal from the child terminal and orient the parent terminal to the location of the child terminal.

12. **Claims 21-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Almassy in view of Nuutinen et al., and further in views of Brown et al. (US 6,838,998 B1) and Nozaki (US 2002/0133290 A1).

Regarding claim 21, Almassy disclose a system for providing position information of a target mobile communication terminal whose position is to be determined, comprising:

a first mobile communication terminal for calculating and transmitting first individual position information (p.0008, lines 1-3; p.0014, lines 4-6, 9-11; the first mobile station receives GPS data to determine its own position); a second mobile communication terminal being said target

mobile communication terminal, said second mobile communication terminal calculating and transmitting second individual position information (p.0008, lines 1-8; p.0012, lines 3-8; p.0015, lines 5-13; p.0033; the second mobile station determines its own position from received GPS data and transmits it in response to the request); and a mobile communication server (p.0014, lines 54-56; p.0020, lines 1-7; a position determination entity or location control module can be used to assist in the calculation of position information).

Almassy fails to disclose wherein the mobile communication server generates AASA information for position information calculation using radio waves transmitted from GPS satellite, transmits the generated AASA information to said first mobile communication terminal and second communication terminal upon receiving a position tracking signal transmitted from said first mobile communication terminal, and further that the first and second communication terminals calculates its individual position on the basis of AASA information.

Nuutinen discloses a system for transferring location data for assisting in locating one or more mobile stations in the network, in where a location entity is adapted to receive raw location data and generate GPS assistance data, which is transferred to a mobile station to determine its current location (abstract; p.0021; p.0026). Therefore, it would have been obvious to one having ordinary skill in the art for a mobile communication server to generate AASA information, i.e. GPS assistance data, and transmit it to mobile communication terminals to calculate their position as suggested by Nuutinen, because the use of AASA information, i.e. GPS assistance data, address the need for faster location determination by GPS-equipped units.

However, the combination of Almassy and Nuutinen fails to teach the system comprising a communication terminal connected to a Web server over a network for transmitting a position-tracking signal for determining the position of said target mobile communication terminal.

Brown teaches an Internet based personal tracking system for tracking the position of a portable location unit (i.e. target communication terminal) by a remote user that accesses a web host (i.e. web server) through an Internet connection from a user terminal (col.5, line 63 - col.6, lines 1-20), the web host upon the entrance of a tracking request (i.e. position tracking signal) initiates communication with the portable location unit to obtain position data and once received, the web host makes the information available to the remote user (col.7, line 50 – col.8, lines 1-21). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention for the system to comprise a communication terminal connected to a Web server for transmitting a position tracking signal to locate a target communication terminal as suggested by Brown, in order for a remote user to track the location of a mobile communication terminal through the Internet network.

Nevertheless, the combination of Almassy, Nuutinen, and Brown fails to disclose wherein the Web server is adapted to calculate correlative position information between mobile terminals on the basis of its individual positions and output the correlative position information to a screen.

Nozaki teaches a map information providing system wherein a client terminal unit accesses a map information site (i.e. Web server) through the Internet, and the Web server calculates azimuth information consisting of a direction and a distance to an institution (e.g. mobile communication terminal with known location) from the present position of the terminal and transmits a map of the surrounding area along with the azimuth information to the terminal unit to display them (abstract; p.0009-0012). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the Web server to also calculate correlative position information (e.g. distance and direction) between a present position and a destination (e.g. from first mobile device to a second mobile device) and output the information to a screen as suggested by Nozaki,

because the Web server facilitates the calculation of a destination (e.g. target mobile communication terminal) from a present position.

Regarding claim 22, the combination of Almassy, Nuutinen, Brown, and Nozaki disclose the system as set forth in claim 21, Nozaki further discloses wherein, said Web server is adapted to mark said correlative position information including said first individual position information and second individual position information on a map and provide the resulting map to said communication terminal; and wherein said communication terminal is adapted to receive said map and output it to said screen (abstract; p.0011; the azimuth information and a map of the surrounding id displayed in the terminal unit). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a resulting map with correlative information to said communication terminal as suggested by Nozaki, because it provides a visualization of the location and how far is from the target mobile communication terminal.

Regarding claim 23, the combination of Almassy, Nuutinen, Brown, and Nozaki disclose the system as set forth in claim 22, but fails to disclose wherein each of said first and second individual position information includes at least one of latitude information, longitude information and altitude information of a corresponding one of said first and second mobile communication terminals. However it would have been obvious to one having ordinary skill in the art at the time of the invention to recognize that each said first and second individual position information includes at least one of latitude, longitude and latitude information since the terminals determines its own location thorough reception of GPS signals (Almassy: p.0008, lines 1-8) and is conventionally known that terminals provided with GPS capability compute its location in terms of latitude and longitude.

Regarding claim 24, the combination of Almassy, Nuutinen, Brown, and Nozaki disclose the system as set forth in claim 23, Nozaki further disclose wherein said correlative position

information includes at least one of information regarding a direction and distance from said first mobile communication terminal to said second mobile communication terminal (abstract, lines 6-9; the Web server calculates an azimuth information consisting of a direction and distance from the present position of a terminal unit and an institution).

Regarding claim 25, the claim is rejected over the same reasons stated about claim 21. See remarks about claim 21 above.

13. **Claims 26-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Almassy in views of Nuutinen et al., Brown et al., and Nozaki, and further in view of Chern et al. (US 6,456,854 B1).

Regarding claim 26, the combination of Almassy, Nuutinen, Brown, and Nozaki disclose the method as set forth in claim 25, but fails to disclose including the step of marking moving paths of said first mobile communication terminal and second mobile communication terminal on a map on the basis of said first individual position information and second individual position information and outputting the resulting map to said screen. Chern teaches a method for locating and tracking mobile telephone devices via the Internet, the mobile telephone devices obtains and provides their locations to a Web server, and over time may record several locations of a single mobile telephone device to map the progress of the mobile unit (abstract; col.7, lines 35-41). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to include the step of marking moving paths of the mobile terminals on basis of their individual positions as suggested by Chern, in order to map the traveling progress of the mobile telephones.

Regarding claim 27, the combination of Almassy, Nuutinen, Brown, Nozaki, and Chern disclose the method as set forth in claim 26, but fails to disclose wherein each of said first and second individual position information includes at least one of latitude information, longitude

information and altitude information of a corresponding one of said first and second mobile communication terminals. However it would have been obvious to one having ordinary skill in the art at the time of the invention to recognize that each said first and second individual position information includes at least one of latitude, longitude and latitude information since the terminals determines its own location thorough reception of GPS signals (Almassy: p.0008, lines 1-8) and is conventionally known that terminals provided with GPS capability compute its location in terms of latitude and longitude.

Regarding claim 28, the combination of Almassy, Nuutinen, Brown, Nozaki, and Chern disclose the method as set forth in claim 27, Nozaki further disclose wherein said correlative position information includes at least one of information regarding a direction and distance from said first mobile communication terminal to said second mobile communication terminal (abstract, lines 6-9; the Web server calculates an azimuth information consisting of a direction and distance from the present position of a terminal unit and an institution).

14. **Claim 31** is rejected under 35 U.S.C. 103(a) as being unpatentable over Almassy in view of Nuutinen et al., and further in view of Yoshio (JP 2003-009203). See electronic translation for Yoshio.

Regarding claim 31, the combination of Almassy and Nuutinen disclose the system as set forth in claim 1, but fails to disclose wherein if it is determined that said mobile communication device is powered off after the lapse of a predetermined period of time in a power-on state, calculates said second individual position information and transmits the calculated individual position information to the mobile communication server. Yoshio teaches a radio communication system that is capable of turning off the power of mobile communication devices but allows the mobile communication device to transmit its present location to a particular address (e.g. sever)

before turning off (abstract; p.0027-0030; p.0035). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention for the mobile communication device to transmits its calculated location when is about to power off as suggested by Yoshio, in order to provide the most recent location information to the communication network before location information cannot be obtained as a result of the mobile being powered off.

However, Yoshio fails to disclose wherein the mobile communication device calculates its position from AASA information requested and received to/from the mobile communication server. But Nuutinen discloses a system for transferring location data for assisting in locating one or more mobile stations in the network, in where a location entity is adapted to receive raw location data and generate assistance data, which is transferred to a mobile station to determine its location (abstract; p.0021; p.0026). Therefore, it would have been obvious to one having ordinary skill in the art for a mobile communication server to generate AASA information, i.e. GPS assistance data, and send it to mobile communication terminals to calculate their position as suggested by Nuutinen, because the use of AASA information, i.e. GPS assistance data, address the need for faster location determination by GPS-equipped units.

15. **Claim 33** is rejected under 35 U.S.C. 103(a) as being unpatentable over Almassy in views of Nuutinen et al., and Lundgren et al, and further in view of Yoshio.

Regarding claim 33, the combination of Almassy, Nuutinen, Lundgren, and Yoshio disclose the method as set forth in claim 16, but fails to disclose wherein if it is determined that said mobile communication device is powered off after the lapse of a predetermined period of time in a power-on state, calculates said second individual position information and transmits the calculated individual position information to the mobile communication server. Yoshio teaches a radio communication system that is capable of turning off the power of mobile communication devices

but allows the mobile communication device to transmit its present location to a particular address (e.g. sever) before turning off (abstract; p.0027-0030; p.0035). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention for the mobile communication device to transmits its calculated location when is about to power off as suggested by Yoshio, in order to provide the most recent location information to the communication network before location information cannot be obtained as a result of the mobile being powered off.

However, Yoshio fails to disclose wherein the mobile communication device calculates its position from AASA information requested and received to/from the mobile communication server. But Nuutinen discloses a system for transferring location data for assisting in locating one or more mobile stations in the network, in where a location entity is adapted to receive raw location data and generate assistance data, which is transferred to a mobile station to determine its location (abstract; p.0021; p.0026). Therefore, it would have been obvious to one having ordinary skill in the art for a mobile communication server to generate AASA information, i.e. GPS assistance data, and send it to mobile communication terminals to calculate their position as suggested by Nuutinen, because the use of AASA information, i.e. GPS assistance data, address the need for faster location determination by GPS-equipped units.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(a) KOHAR et al. (US 2002/0086683 A1) – Method of Providing Position Information of Mobile Terminals.

(b) KANERVA (US 2004/0160359 A1) – Provision of Navigation Information.

(c) MIZUNE et al. (US 2003/0013461 A1) – Mobile Telephone Device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marisol Figueroa whose telephone number is (571) 272-7840. The examiner can normally be reached on Monday Thru Friday 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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